

1. A communication system comprising:

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4. A communication system comprising:

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apparatus to a second transmitting/receiving apparatus,  
first transfer schedule table information indicating  
a schedule of the program data, and second transfer  
schedule table information concerning data to be  
5 transmitted from the second transmitting/receiving  
apparatus to the first transmitting/receiving  
apparatus, to filter means;

the second transmitting/receiving apparatus  
configured to transmit data to the first transmitting/  
10 receiving apparatus, based on the second transfer  
schedule table information transmitted from the first  
transmitting/receiving apparatus; and

a filter unit configured to receive the first  
transfer schedule table information and the second  
15 transfer schedule table information transmitted from  
the first transmitting/receiving apparatus, for  
filtering data transmitted from the first transmitting/  
receiving apparatus, based on the first transfer  
schedule table information, and for filtering data  
20 transmitted from the second transmitting/receiving  
apparatus to the first transmitting/receiving  
apparatus, based on the second transfer schedule table  
information.

5. A system according to claim 4, wherein  
25 the first transmitting/receiving apparatus  
transmits downstream data transmitted from the first  
transmitting/receiving apparatus to the second

transmitting/receiving apparatus, schedule data which specifies contents of the downstream data by means of frequency and time, and schedule data for upstream data transmitted from the second transmitting/receiving apparatus to the first transmitting/receiving apparatus,

the filter unit transmits the schedule data for the downstream data and that for the upstream data requested by the second transmitting/receiving apparatus, to the second transmitting/receiving apparatus, and transmits the upstream data to the first transmitting/receiving apparatus, and

the second transmitting/receiving apparatus transmits the upstream data and information for filtering the downstream data by the filter unit, to the filter unit.

6. A system according to claim 5, wherein when the filter unit does not transmit the upstream data to the first transmitting/receiving apparatus, the filter unit performs filtering processing in accordance with the schedule data for the upstream data, which is transmitted from the first transmitting/receiving apparatus.

7. A system according to claim 5, wherein the filter unit comprises:

a CPU for controlling entirely the filter unit;  
a first reception interface for receiving

a first filter circuit connected with the CPU and  
the first reception interface, to filter downstream  
5 data, based on control by the CPU;

0       a second reception interface for receiving data  
transmitted from the second transmitting/receiving  
apparatus;

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        a third reception interface for receiving the
5    upstream data;

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a second transmission interface for transmitting  
upstream data filtered by the second filter circuit, to  
the first transmitting/receiving apparatus, wherein

the second reception interface receives the upstream data through a route different from a route

through which the first reception interface receives the transmitted data and the schedule data from the first transmitting/receiving apparatus.

8. A system according to claim 5, wherein  
5 the filter unit comprises:

a CPU for controlling entirely the filter unit;  
a first reception interface for receiving  
transmitted data and schedule data from the first  
transmitting/receiving apparatus;

10           a first filter circuit connected with the CPU and  
the first reception interface, to filter downstream  
data, based on control by the CPU;

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        a first transmission interface for transmitting
data outputted from the first filter circuit;

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15           a second reception interface for receiving the  
upstream data and information for filtering downstream  
data;

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        a second filter circuit for filtering upstream
data received through the second reception interface;

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20           a second transmission interface for transmitting  
upstream data filtered by the second filter circuit, to  
the first transmitting/receiving apparatus; and

an A/D converter for analog-to-digital-converting  
data from the second transmitting/receiving apparatus  
25 received through the second reception interface and the  
second filter circuit, wherein

information for filtering downstream data which

the second reception interface receives and upstream data which the first reception interface receives are received through one same route.

5           9. A system according to claim 5, wherein the schedule data for upstream data is transmitted, multiplexed with use of one or more frequencies.

10           10. A system according to claim 5, wherein in a time slot, schedule data for upstream data, which the first transmitting/receiving apparatus transmits, includes information concerning time and frequency assigned to the second transmitting/receiving apparatus, schedule data for transmitting request data for receiving an assigned time which the second transmitting/receiving apparatus requests, and time and frequency at which the second transmitting/receiving apparatus transmits filter information for the filter unit, and

15           in the same time slot, data transmitted from the second transmitting/receiving apparatus to the first transmitting/receiving apparatus includes data transmitted to the first transmitting/receiving apparatus, size of upstream data to be transmitted, and filtering information concerning received downstream data.

20           11. A communication system comprising:

          a transmitting apparatus configured to send multiplexed program data and to transmit a schedule

table indicating a schedule of data to be transmitted to a receiving apparatus, in a communication network connecting with a transmitting apparatus and a receiving apparatus;

5           a receiving apparatus configured to transmit request information indicating which program is being viewed/listened; and

          a filter unit configured to change a filtering characteristic of itself based on the schedule table  
10       received from the transmitting apparatus and the request information received from the receiving apparatus, and to transmit data specified by the request information to the receiving apparatus.

12. In a communication system in which program  
15       data is transmitted through a communication network to a client, the system comprising a server, at least one client and a filter unit, the filter unit comprising:

          a processor for controlling the filter unit entirely;

20           a first interface for receiving program data and schedule data from the server;

          a second interface for receiving request information from the client; and

          a filter circuit for forwarding the program data  
25       indicated by the schedule to be received at the client.

13. The filter unit according to claim 12, wherein the filter unit further comprises:

a third interface for transmitting the program data forwarded by the filter circuit; and

an analog/digital (A/D) converter for converting the schedule data received through the first interface and the filter circuit into a digital form.

14. The filter unit according to claim 13, further comprising:

a fourth interface for receiving information for filtering the program data; and

a second filter for filtering data from the client to the server in accordance with schedule data transmitted from the client.